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Katten, Muchin, Zavis & Rosenman 575 Madison Ave. New York, NY 10022-2585			RYMAN, DANIEL J	
			ART UNIT	PAPER NUMBER
			2665	
DATE MAILED: 08/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/625,717

Applicant(s)

UENO, TOMOYUKI

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-11 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Examiner acknowledges Applicant's filing of an RCE on 7/21/2005.
2. Applicant's arguments filed 7/21/2005 have been fully considered but they are not persuasive. On pages 8-9 of the Response, Applicant asserts that the wording of claim 5 is consistent with the specification when interpreted in a particular fashion. However, since claim 5 is open to multiple interpretations, claim 5 is indefinite under 35 U.S.C. § 112, second paragraph. Therefore, Examiner has rejected claims 5 and 6 as being vague and indefinite. The rejection follows.
3. On pages 9 and 10, Applicant further asserts that the amendments to claims 1 and 4 overcome the cited prior art since Dupuy fails to disclose that "the delay A is allocated in the sending side as a frame offset and the delay A' is allocated in the receiving side." While Examiner agrees with Applicant that Dupuy does not disclose this limitation, nonetheless, Examiner submits that this limitation is not a patentable distinction over the cited prior art. As noted in the previous rejections, claims 1 and 4 define the delay A as A ($0 \leq A \leq T$) and A' as $A' (=T-A)$. Therefore, when A is set to 0 there is no delay added in the transmitter. Likewise, when A' is set to 0 (i.e. $A=T$) there is no delay added in the receiver. In these two cases, Applicant's currently added limitation does not require the system to add a delay in both the sending and receiving sides because either the delay in the sending or the receiving side is 0. Dupuy discloses a situation where the entire delay of the system is added at the receiver (i.e. $A=0$). As such, the cited prior art renders the claims obvious when the $A=0$. In order to

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overcome the cited prior art, Applicant must *require* that the delay be added in both the receiving and sending sides.

4. On pages 10-11, Applicant additionally asserts that Edem does not teach certain limitations of the claims. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant emphasizes that Edem does not teach or suggest that the addition of delay occurs in “each bearer frame.” However, Edem does disclose that the delay occurs in each packet in order to time-division multiplex the packets while maintaining original packet timing. Applicant’s admitted prior art discloses a bearer system. Thus, Applicant’s admitted prior art in view of Edem’s suggests a bearer system in which delay is added in order to synchronize frames during time-division multiplexing while maintaining the original frame timing.

5. In view of the foregoing, Examiner maintains that the claims are obvious in view of the cited prior art.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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8. Claim 5 reads “integrating a first bearer service in which delays A ($0 \leq A \leq T$) and A' ($=2T-A$) are associated with a second bearer service in which delays B ($0 \leq B \leq T$) and B' ($=2T-B$) are allocated.” This wording could be interpreted in two ways: (1) “integrating a first bearer service having associated delays A ($0 \leq A \leq T$) and A' ($=2T-A$) with a second bearer service having allocated delays B ($0 \leq B \leq T$) and B' ($=2T-B$)” or (2) “integrating a first bearer service with a second bearer service where the second bearer service has associated delays A ($0 \leq A \leq T$) and A' ($=2T-A$) and allocated delays B ($0 \leq B \leq T$) and B' ($=2T-B$).” Applicant should pick the desired meaning and amend the claim accordingly. Examiner also notes that the use of “associated” for the delays of the first bearer and the use of “allocated” for the delays of the second bearer is confusing since it is not clear if there is a difference between an “associated” delay and an “allocated” delay.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Dupuy (USPN 5,430,774).

11. Regarding claim 1, Applicant admits as prior art a bearer integration method for integrating a plurality of bearer services into a wireless channel by performing time-division multiplexing/demultiplexing (Figs. 1-5 and page 1, line 33-page 9, line 30), said bearer integration method comprising the steps of: inputting bearer service data in synchronization with

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reference frame timing of a period T in a sending side (Figs. 1-5 and page 1, line 33-page 9, line 30); outputting each bearer frame of said bearer service in the receiving side (Figs. 1-5 and page 1, line 33-page 9, line 30); and integrating said bearer service data into a wireless channel with another bearer service data (Figs. 1-5 and page 1, line 33-page 9, line 30).

Applicant does not disclose as prior art delaying each bearer frame of said bearer service by one frame period by allocating delays A ($0 \leq A \leq T$) and A' ($=T-A$) between the sending side and a receiving side wherein the delay A is allocated in the sending side as a frame offset and the delay A' is allocated in the receiving side or that the another bearer service has delays B ($A \leq B \leq T$) and B' ($=T-B$) which are allocated between the sending side and the receiving side wherein the delay B is allocated in the sending side as a frame offset and the delay B' is allocated in the receiving side; however, Applicant does disclose as prior art having a gap in the data stream due to frame misalignment. Dupuy teaches, in a wireless communication system, eliminating a gap in the data stream caused by frame misalignment by adding a delay to the data stream in order to decrease synchronization time (Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to delay the bearer service data by allocating delays between the sending side and a receiving side, and to have the another bearer service have delays which are allocated between the sending side and the receiving side in order to eliminate a gap in the data stream such that synchronization time is decreased.

Applicant's admitted prior art in view of Dupuy does not expressly disclose allocating a delay of one frame period; however, Applicant's admitted prior art in view of Dupuy does disclose allocating a delay. It is generally considered to be within the ordinary skill in the art to

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adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Dupuy discloses allocating a delay, any delay, include one frame period, would have been obvious absent a showing of criticality by Applicant. Thus, Applicant's admitted prior art in view of Dupuy suggests delaying each bearer frame of said bearer service by one frame period by allocating delays A ($0 \leq A \leq T$) and A' ($=T-A$) between the sending side and a receiving side wherein the delay A is allocated in the sending side as a frame offset and the delay A' is allocated in the receiving side, where the language of the claim only requires allocating a single delay of one time frame. Applicant's admitted prior art in view of Dupuy also suggests that the another bearer service has delays B ($A \leq B \leq T$) and B' ($=T-B$) which are allocated between the sending side and the receiving side wherein the delay B is allocated in the sending side as a frame offset and the delay B' is allocated in the receiving side, where the language of the claim only requires allocating a single delay of one time frame.

12. Regarding claim 2, referring to claim 1, Applicant's admitted prior art in view of Dupuy suggests that when integrating bearer services in which each bearer service has different delay allocation, said bearer services are integrated into a wireless channel which has a delay equal to or larger than the maximum delay in said bearer services (Applicant: Figs. 1-5 and page 1, line

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33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). It is implicit that when streams of varying delay are integrated that the combined stream will have a delay equal to or larger than the maximum delay of the individual streams, and therefore the channel into which the stream is integrated must have a delay equal to or larger than the maximum delay of the individual streams.

13. Regarding claim 3, referring to claim 1, Applicant's admitted prior art in view of Dupuy discloses integrating one or more bearer services having any delay allocation into another bearer service having any delay allocation (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

14. Regarding claim 4, Applicant's admitted prior art discloses a bearer integration method for integrating a plurality of bearer services into a wireless channel by performing time-division multiplexing/demultiplexing (Figs. 1-5 and page 1, line 33-page 9, line 30), said bearer integration method comprising the steps of: inputting each bearer frame of bearer service in synchronization with reference frame timing of a period T in a sending side (Figs. 1-5 and page 1, line 33-page 9, line 30); outputting each bearer frame of said bearer service in the receiving side (Figs. 1-5 and page 1, line 33-page 9, line 30); and integrating said bearer service into a wireless channel with another bearer service data (Figs. 1-5 and page 1, line 33-page 9, line 30).

Applicant does not disclose as prior art delaying each bearer frame of said bearer service by two frame period by allocating delays A ($0 \leq A \leq T$) and A' ($=2T-A$) between the sending side and a receiving side wherein the delay A is allocated in the sending side as a frame offset and the delay A' is allocated in the receiving side or that the another bearer service has delays

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$T+B$ ($0 \leq B \leq T$) and $B' (=T-B)$ which are allocated between the sending side and the receiving side wherein the delay B is allocated in the sending side as a frame offset and the delay B' is allocated in the receiving side; however, Applicant does disclose as prior art having a gap in the data stream due to frame misalignment. Dupuy teaches, in a wireless communication system, eliminating a gap in the data stream caused by frame misalignment by adding a delay to the data stream in order to decrease synchronization time (Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19). It would have been obvious to one of ordinary skill in the art at the time of the invention to delay the bearer service data by allocating delays between the sending side and a receiving side, and to have the another bearer service have delays which are allocated between the sending side and the receiving side in order to eliminate a gap in the data stream such that synchronization time is decreased.

Applicant's admitted prior art in view of Dupuy does not expressly disclose allocating a delay of two frame periods; however, Applicant's admitted prior art in view of Dupuy does disclose allocating a delay. It is generally considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Applicant's admitted prior art in view of Dupuy discloses allocating a delay, any delay, include two frame periods, would have

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been obvious absent a showing of criticality by Applicant. Thus, Applicant's admitted prior art in view of Dupuy suggests delaying each bearer frame of said bearer service by two frame periods by allocating delays A ($0 \leq A \leq T$) and $A' (=2T-A)$ between the sending side and a receiving side wherein the delay A is allocated in the sending side as a frame offset and the delay A' is allocated in the receiving side, where the language of the claim only requires allocating a single delay of one time frame. Applicant's admitted prior art in view of Dupuy also suggests that the another bearer service has delays $T+B$ ($0 \leq B \leq T$) and $B' (=T-B)$ which are allocated between the sending side and the receiving side wherein the delay B is allocated in the sending side as a frame offset and the delay B' is allocated in the receiving side, where the language of the claim only requires allocating a single delay of two time frames.

15. Regarding claim 5, Applicant's admitted prior art in view of Dupuy discloses integrating a first bearer service in which delays A ($0 \leq A \leq T$) and $A' (=2T-A)$ are associated with a second bearer service in which delays B ($0 \leq B \leq T$) and $B' (=2T-B)$ are allocated between the sending side and the receiving side into a wireless channel C in which delays $T+C$ ($0 \leq C \leq T$) and $C' (=T-C)$ are allocated (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

16. Regarding claim 7, referring to claim 1, Applicant's admitted prior art in view of Dupuy suggests that a point of delay allocation between the sending side and the receiving side corresponds to frame offset timing (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19) since the delay is intended to ensure that the frames of a stream align in the receiver.

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17. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Dupuy (USPN 5,430,774) in further view of Edem et al (USPN 5,559,796).

18. Regarding claim 6, Applicant's admitted prior art in view of Dupuy suggests delaying, in the sending side, a first bearer frame of said first bearer service which is input after bearer integration timing by a period $T+C$, delaying bearer frames of said first bearer service after a second bearer frame by a period C ; delaying, in the sending side, bearer frames of said second bearer service after a third bearer frame of said second bearer service which is input after bearer integration timing by a period C , integrating the first and the second bearer services into the wireless channel C and sending integrated data (Applicant: Figs. 1-5 and page 1, line 33-page 9, line 30 and Dupuy: Figs. 1 and 2; col. 2, line 51-col. 3, line 11; col. 3, line 34-col. 4, line 14; and col. 6, lines 1-19).

Applicant's admitted prior art in view of Dupuy does not expressly disclose delaying, in the receiving side, the first bearer frame by a period $T-C$, delaying said bearer frames after the second bearer frame by a period $2TC$, and outputting these bearer frames; and delaying, in the receiving side, said bearer frames of said second bearer service after the third bearer frame by a period $2T-C$ and outputting said bearer frames. Edem teaches, in a frame-based communication network, delaying each bearer service data in the receiver up to frame offset timing in order to have the relative timing of the frames be substantially similar to the timing of the frames before integration (col. 2, line 51-64). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a receive delay adding part which delays the first bearer frame by a period $T-C$, the bearer frames after the second bearer frame by a period $2T-C$, and the bearer

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frames of said second bearer service after the third bearer frame by a period $2T-C$ in order to have the relative timing of the frames be substantially similar to the timing of the frames before integration.

19. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Edem et al (USPN 5,559,796).

20. Regarding claim 12, Applicant admits as prior art a communication system which integrates a plurality of bearer services into a wireless channel by performing time-division multiplexing/demultiplexing (Figs. 1-5 and page 1, line 33-page 9, line 30), said communication system comprising: a bearer data multiplexing part which time-division multiplexes bearer frames of the one or more bearer service output from a part wherein the bearer frames that are multiplexed are transmitted via a wireless channel (Figs. 1-5 and page 1, line 33-page 9, line 30); and a bearer data separation part which time division demultiplexing data of bearer integration received via a wireless channel (Figs. 1-5 and page 1, line 33-page 9, line 30).

Applicant does not admit as prior art a send delay adding part which synchronizes with reference frame timing, delays each bearer frame of one or more bearer services input before bearer integration timing up to each frame offset timing, and delays each bearer frame of the one or more bearer services input after bearer integration timing up to frame offset timing for bearer integration. Edem teaches, in a frame-based communication network, having a send delay adding part which synchronizes with reference timing, delays each data unit of one or more data units input before integration timing (multiplexing) up to each offset timing (timing done before "re-timing"), and delays each data unit of the one or more data units input after integration timing up to offset timing for integration ("re-timing") in order to synchronize the data units to the

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multiplexed frame sequence (col. 2, line 51-64) where “re-timing” of data implicitly discloses that the data was previously timed before multiplexing such that the data was delayed before multiplexing and where “re-timing” of data discloses that the data is delayed for multiplexing. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a send delay adding part which synchronizes with reference frame timing, delays each frame of one or more frames input before integration (multiplexing) timing up to each frame offset timing, and delays each frame of the one of more frames input after integration timing up to frame offset timing for bearer integration in order to synchronize the frames to the multiplexed frame sequence.

Applicant also does not disclose as prior art a receive delay adding part which delays each bearer frame of the one or more bearer services input before bearer integration timing up to reference frame timing, and delays each bearer frame of the one or more bearer services output from said bearer data separation part after bearer integration timing up to frame offset timing. Edem teaches, in a frame-based communication network, having a receive delay adding part which delays one or more data input before integration timing up (multiplexed stream) to reference timing, and delays each data output from said data separation part after integration timing up to frame offset timing (demultiplexed steam) in order to have the relative timing of the data units be substantially similar to the timing of the data units before integration (col. 2, line 51-64) where Examiner takes official notice that a delay is typically added when a multiplexed stream is received since it takes time to process a stream of data. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a receive delay adding part which delays one or more bearer service data input before bearer integration timing up

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(multiplexed stream) to reference frame timing, and delays each bearer service data output from said bearer data separation part after bearer integration timing up to frame offset timing (demultiplexed steam) in order to have the relative timing of the frames be substantially similar to the timing of the frames before integration.

Allowable Subject Matter

21. Claims 8-11 are allowed. The prior art does not disclose or fairly suggest allocating a delay time according to a delay margin obtained by subtracting a system delay from the maximum allowable delay defined by service quality.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJR Daniel J. Ryman

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Examiner
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A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal stroke extending to the right.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600